

L46 ANSWER 23 OF 29 HCAPLUS COPYRIGHT 2002 ACS
AN 1980:8214 HCAPLUS
DN 92:8214
TI Tensile and compressive **strengths** of fine powder bed
AU Takahashi, Minoru; Katoh, Masahiro; Suzuki, Suguru; Kobayashi, Taneo
CS Ceram. Eng. Lab., Nagoya Inst. Technol., Tajimi, Japan
SO Zairyo (1979), 28(312), 819-23
CODEN: ZARYAQ; ISSN: 0514-5163
DT Journal
LA Japanese
AB Tensile and compressive strengths of fine MgO, Al₂O₃, and SiO₂ powder beds were measured. The radial compression test was used. The size effect of test pieces and the distribution of its strength were discussed using the specimens with different diam. (D) and thickness (W). The tensile strength (St) of the specimens with W/D = 1/2 slightly decreased with increasing diam. of powder beds. For the powder beds having the same diam. but different thickness, the tensile strength had a peak at W/D = 1/2, beyond which it decreased gradually and below which it decreased rapidly. The distribution of strength for powder beds with W/D = 1/2 and D = 20 mm could be approximated by a Gaussian's distribution or Weibull's distribution with the high coeff. of uniformity ($m > 20$). The compressive strength (Sc) of the specimens with W/D = 2 was measured by the conventional uni-axial compression test. Sc was related to St by the equation, $Sc = 7 St$. On the other hand, the Griffith's theory with the assumption of random crack distribution gave $Sc = 8 St$. It is suggested that powder beds are highly uniform brittle materials.
IT **1344-28-1, properties**
RL: PRP (Properties)
(**compressive** and tensile **strength** of powder bed of)
RN 1344-28-1 HCAPLUS
CN Aluminum oxide (Al₂O₃) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L46 ANSWER 13 OF 29 HCAPLUS COPYRIGHT 2002 ACS

AN 1995:990657 HCAPLUS

DN 124:16307

TI Preparation of catalytic tablets with higher mechanical **strength**

IN Neth, Norbert; Roos, Hans; Miesen, Ernest

PA BASF A.-G., Germany

SO Ger. Offen., 5 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19505347	A1	19950907	DE 1995-19505347	19950217
PRAI	DE 1994-4406788		19940302		
AB	The prepn. of catalytic tablets with higher mech. strength, which consist of a metal or alloy powder with particle sizes of 20-500 .mu.m and are calcinated at temps. from 0-180.degree., is described.				
IT	1344-28-1, Alumina, uses RL: CAT (Catalyst use); USES (Uses) (mech. strength of catalyst tablets prepd. from powder mixts.)				
RN	1344-28-1 HCAPLUS				
CN	Aluminum oxide (Al2O3) (8CI, 9CI) (CA INDEX NAME)				

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L50 ANSWER 6 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 2000:883292 HCAPLUS
DN 134:151263
TI **Strength** characteristics of binder-segregated granules
AU Kato, Zenji; Tanaka, Satoshi; Uchida, Nozomu; Uematsu, Keizo
CS Department of Chemistry, Nagaoka University of Technology, Nagaoka,
940-2188, Japan.
SO International Conference on Processing Materials for Properties,
Proceedings, 2nd, San Francisco, CA, United States, Nov. 5-8, 2000 (2000),
1083-1084. Editor(s): Mishra, Brajendra; Yamauchi, Chikabumi. Publisher:
Minerals, Metals & Materials Society, Warrendale, Pa.
CODEN: 69ASJW
DT Conference
LA English
CC 57-2 (Ceramics)
AB A novel technique is developed and applied to evaluate the binder
segregated at the surface of granule. Compressive strength of each
granule was measured directly with a micro-compressive instrument. The
relation between compressive characteristics and the amt. of binder is
discussed quant.
ST compressive **strength** binder segregated granule **alumina**
ceramic powder
IT **Powders**

L50 ANSWER 39 OF 42 HCAPLUS COPYRIGHT 2002 ACS
AN 1981:411440 HCAPLUS
DN 95:11440
TI Filling and **strength** properties of **alumina powder**. Effect of grinding and heat treatment
AU Takahashi, Minoru; Suzuki, Suguru; Kobayashi, Taneo; Okano, Yasuhiko
CS Ceram. Eng. Res. Lab., Nagoya Inst. Technol., Nagoya, Japan
SO Nagoya Kogyo Daigaku Kogakubu Fuzoku Yogyo Gijutsu Kenkyu Shisetsu Nenpo
(1979), 6, 13-20
CODEN: NKDNDY
DT Journal
LA Japanese
CC 57-7 (Ceramics)
AB The effects of grinding and heat treatment of sintered Al₂O₃ powder on its filling properties and the tensile strength of compacts formed from it were studied and compared to results using SiO₂ and limestone. The bulk d. and tensile strength of Al₂O₃ compacts increased with decreasing particle diam. The bulk d. of Al₂O₃ compacts calcined at 100-1000.degree. had a max. value at .apprx.600.degree. and decreased uniformly with increasing calcination temp. while the tensile strength was min. at .apprx.600.degree..
ST alumina ceramic powder sintering
IT Ceramic materials and wares
(alumina, effect of particle size and sintering on)